

## REMARKS

By this paper, claims 1, 20 and 21 have been amended. Applicants respectively request reconsideration of all of the claims in view of the foregoing amendments and the following comments.

In the Office Action, claims 21 – 37 were rejected under 35 U.S.C. § 103 as being unpatentable over Stevens et al. in combination with Shibano et al. for the reasons set forth in the last Office Action. The Examiner indicated that Applicants had attempted to obviate the rejection of claim 1 by deleting the word “thiol” from the required scavenger thus limiting it to a hydroxyl moiety. The Examiner then went on to indicate that new claim 21, and those claims dependent therefrom, still contained the thiol moiety. However, it should be noted that new claim 21 is narrower than original claim 1. In particular, claim 21 is limited to acrylonitrile process streams.

As pointed out previously, the Stevens et al. reference is directed to the purification of unsaturated nitriles such as acrylonitrile. Stevens teaches that the removal of acrolein does not present a problem. *See* column 1, lines 23 – 32. Accordingly, there is no teaching or suggestion in Stevens that trace amounts of acrolein can remain in the process streams which need to be or can be removed by the process of the present invention.

The Shibano et al. reference discloses a process for the purification of carboxylic acids. It does not disclose the purification of acrylonitrile nor is there any suggestion that the process of Shibano could be utilized to remove acrolein from an acrylonitrile process stream. Acrylic acid is a different end product than acrylonitrile. Accordingly, it is respectfully submitted that there is no teaching or suggestion to combine the teachings of Stevens and Shibano.

In the Office Action, claims 1 – 5, 8 – 11, 15 – 24, 26 – 33 and 35 – 39 were rejected under 35 U.S.C. § 112, first paragraph. The Examiner indicated that the specification is not adequately enabled for the scope of compounds claimed which have a hydroxyl moiety. By this paper, claims 1 and 20 have been amended to limit them to the specific classes of hydroxyl containing compounds and the required solubility as set forth on page 5 of the specification. Applicants respectfully submit that these teachings are

sufficiently specific to a person of skill in the art to enable them to make and use the invention.

Claims 1 – 6, 8 – 11, 15 – 16 and 18 – 39 were rejected under 35 U.S.C. § 112 second paragraph as being indefinite. Applicants respectfully request reconsideration of this rejection.

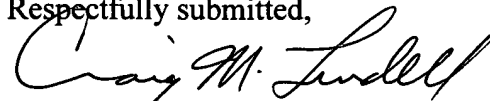
Claim 21 has been amended to more clearly indicate that the acrylonitrile process stream contains acrolein. Applicants submit that a person of skill in the art would recognize that acrylonitrile remains in the process stream after the acrolein has been removed.

With respect to claims 1 and 20, the scope of the invention is broader than and is not limited to acrylonitrile process streams. As set forth on page 5, lines 5 – 8 of the specification, in a second embodiment the acrolein containing process stream is one created as part of an acrylic acid manufacturing process.

Applicants submit that a person skilled in the art would recognize from the teachings of the patent and the claims that an acrolein containing process stream refers to any process stream in which small amounts of acrolein are present where it is desirable to remove the acrolein by reacting it with a scavenger to form an acrolein derivative.

In view of the foregoing, Applicants submit that the claims are now in condition for allowance, and favorable consideration by the Examiner is requested.

Respectfully submitted,



Craig M. Lundell

Reg. No. 30,284

Howery, LLP  
1111 Louisiana, 25<sup>th</sup> Floor  
Houston, TX 77002  
(713) 787-1415

Date: Feb. 17, 2006